PROCEEDINGS OF SCIENCE

Foreword to the Proceedings of the Corfu Summer Institute "School and Workshops on Elementary Particle Physics and Gravity" (CORFU2023)

Dedicated to the memory of George Lazarides

1. Foreword

These are the Proceedings of the scientific activities of CORFU2023, the 23rd Hellenic School and Workshops on Elementary Particle Physics and Gravity, which took place from 23rd April to 6th May 2023 and from 27th August to 1st October, 2023. The Workshops were hosted by the European Institute for Sciences and their Applications (EISA) in the conference center of the former Royal Palace Garden of Mon Repos *in Corfu, Greece.* The CORFU2023 activities consisted of **seven International Workshops and one Summer School**, bringing together world class scientists and young researchers to interact and forge new collaborations.

Specifically, the CORFU2023 hosted the following sessions*:*

- **Workshop on Future Accelerators**, 23-29 April 2023
- **Workshop on Theoretical Particle Cosmology in the Early and Late Universe**, 30 April - 6 May 2023
- **Workshop on the Standard Model and Beyond**, 27 August - 7 September 2023
- **George Fest 2023**: Celebrating the Life and Work of George Zoupanos, 4 September 2023
- **Workshop on Tensions in Cosmology**, 6 – 13 September 2023
- **Workshop on Quantum Gravity, Strings and the Swampland**, 12-19 September 2023
- **Workshop on Noncommutative and Generalized Geometry in String Theory, Gauge Theory and Related Physical Models**, 18-25 September 2023
- **KICC-Villum Summer School on Gravitational Waves**, 24 September – 1 October 2023

All talks (slides and recorded videos can be found in the homepage of CORFU2023:

http://www.physics.ntua.gr/corfu2023

In parallel to the main scientific programme, a rich programme of outreach activities took place. This included master classes for high school students, seminars for high school teachers, open talks for the general public in the Labs of Physical Sciences and in the building of the Society of Corfiot Studies - Corfu Solomos Museum, exhibitions of CERN and Gravitational Waves in the Foyer of the Corfu Municipal Theater, interviews in the media (TV, radio and newspapers). In

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addition, the receptions of the social programme of the various sessions were enriched with cultural events given by the “Mantzaros Philharmonic Association” and the “Skripero Philharmonic Association” as well as by the “Anemomylos Choir”.

These proceedings are dedicated to the memory of George Lazaridis.

George Lazaridis passed away on March 2, 2024. George Lazaridis was an internationally renowned and highly respected scientific figure, and he will be always remembered by the international scientific community, among others, for his seminal results in topological defects, grand unification, supersymmetry and inflationary models. In addition he will be remembered forever by his students as a charismatic lecturer and more generally by his friends and colleagues as an outstanding scientific personality internationally, who contributed in a very significant way to the most important problems discussed in the Elementary Particle Physics and Cosmology communities.

One can read more about George's celebrated life here and in “Remembering George Lazaridis”, PoS(CORFU2023)309 an article written by his closest collaborator Qaisar Shafi.

Additionally, it is important to highlight the significant role of George Lazarides in the success of the Corfu scientific meetings (SchoolΣ and Workshops). For four decades, until the onset of his illness three years ago, George was one of the most active participants in the Corfu scientific activities. As a talented speaker, he contributed in the most significant manner to the education of doctoral and postdoctoral researchers who attended the Corfu Schools for decades, serving as a lecturer, a keynote speaker at the Corfu Workshops, and an outreach instructor for high school teachers, students, and the general public through courses, seminars, television, and radio discussions.

The memory of George Lazarides will be cherished forever by his family, close friends, and all who had the privilege of knowing him.

We would like to express our deepest heartfelt condolences to George's family and assure them that his memory will endure eternally within our hearts.

The Corfu Summer Institute has a very long, interesting and successful history. The Corfu Meetings started as a Summer School on EPP mostly for Greek graduate students in 1982, and since then, it has developed into a leading international Summer Institute in the field of elementary particle
physics (covering both experimental and theoretical advances) and more recently of gravity and cosmology. In addition, it has launched a very rich outreach program to teachers and school

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students and general public that has been widely appreciated by the local society and scientific community over the years.

The structure of the “Summer Institute on EPP and Gravity 2023” was based on the general format developed, established and tested in all previous Corfu Meetings. It was hosted by the European Institute for Science and their Applications (EISA), which has been the host of the meetings since its foundation in 2006. EISA aims to serve as a permanent extension of the Corfu Summer Institutes, with the additional target of attracting first class scientists who can stay in Corfu for a long period and produce locally a significant research output. The scientific activities of CORFU2022 were held in the conference hall and garden of Mon Repos in the town of Corfu, which is the permanent basis of EISA.

As we have reported a few times during recent years, we have had a very exciting development. The Corfu Municipality, responding to a call for proposals by the central Government, submitted a proposal for the renovation of three old buildings in the garden of Mon Repos. The proposal was approved, and the grant provided the funding for the realization of this project. The renovation of the buildings has been practically completed and soon is expected the constructors to return them renovated officially to the Municipality of Corfu in order to be used by EISA. This means that, hopefully, the dream of having buildings in Mon Repos hosting the participants of the EISA's scientific activities and providing them with office space and the necessary infrastructure will be realized soon! With this opportunity, we would like to thank very warmly MPP in
Munich for the computers and the rest of the infrastructure. In particular, we would like to thank the acting directors Wolfgang Hollik, Allen Caldwell and Dieter Lust for their generous offers over the years and Thomas Hahn for realizing this project. Equally, very warm thanks are due to ITP Heidelberg and to Christof Wetterich for their generous technical equipment offer.

Based on the renovasion of the building in Mon Repos we start a new campaign, namely to make serious and specific scientific plans with the scientific personel of the ~ 20 Universities and Institutes that constitute the EISA on the way that the buildings should be used. It is well known that most of the main Institutions in Europe have a problem with space (offices and halls) and have difficulties to host scientific activities.
Now that our dream to have such space in Corfu Mon Repos is close to be realised, it is our duty to use it in the best possible way. We plan visits to all Institutions of EISA to discuss with their leaderships and colleagues concerning the best way to use the MonRepos buildings. In addition all constructive ideas are most welcome! The first event, ***Workshop on Future Accelerators,*** took place from 23 to 29 April 2023. It was co-organized by:
- The National Technical University of Athens
- The Municipality of Corfu

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- The Ionian University, and
- The Regional Government of the Ionian Islands (Periphery of the Ionian Islands).

The Organizing Committee was:
T. Behnke (DESY), A. Blondel (LPNHE/Geneva), J. Kalinowski (U Warsaw), K. Kordas (Aristotle U Thessaloniki), O. Kortner (Max Planck Inst. für Physik), M. Mangano (CERN), F. Simon (KIT), E. Tsesmelis (CERN), F. Zimmermann (CERN), G. Zoupanos (NTU Athens).

The second event, ***Workshop on Theoretical particle cosmology in the early and late universe,*** took place from 30 April to 6 May 2023. It was co-organized and supported by:
- The Mainz Institute for Theoretical Physics
- The National Technical University of Athens
- The Municipality of Corfu
- The Ionian University, and
- The Regional Government of the Ionian Islands (Periphery of the Ionian Islands).

The Organizing Committee was:
O. Mena (U. de Valencia), M. Neubert (Johannes Gutenberg U. Mainz), E.N. Saridakis (National Observatory of Athens), C. Tamarit (Technische U. München)

The third event, ***Workshop on the Standard Model and Beyond*** took place from 27 August to 7 September 2023. It was co-organized by:
- The National Technical University of Athens
- The Municipality of Corfu
- The Ionian University, and
- The Regional Government of the Ionian Islands (Periphery of the Ionian Islands).

The Organizing Committee was:
K. Anagnostopoulos (NTUA), J. Kalinowski (Warsaw U.), K. Kordas (Aristotle U Thessaloniki), M.N. Rebelo (CFTP/IST/U. Lisboa), E. Saridakis (NOA), G. Zoupanos (NTUA).

The Advisory Committee was:

F. del Aguila (Granada U.), J.A. Aguilar Saavedra (Granada U.), K. Anagnostopoulos (NTU Athens), I. Antoniadis (Bern U. and LPTHE-CNRS), P. Apostolopoulos (Ionian U.), R. Barbieri (SNS Pisa), M.B. Gavela (Autonoma U. Madrid), D. Ghilencea (IFIN), N. Glover (Durham U. IPPP), A. Hell (LMU Munich), W. Hollik (MPI Munich), J. Kalinowski (U Warsaw), K. Kordas (Aristotle U Thessaloniki), G. Koutsoumbas (NTU Athens), N. Mavromatos (NTU Athens), M. Neubert (Johannes Gutenberg Universitat Mainz), C. Papadopoulos (NCSR Demokritos), R. Pittau (U.

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Granada), M.N. Rebelo (T.U. Lisbon), A. Ringwald (DESY), G. Rodrigo (IFIC Valencia), E. Saridakis (N.O. Athens), S. Sarkar (Oxford U.), E. Tsesmelis (CERN), G. Zanderighi (CERN & Oxford U.), G. Zoupanos (NTU Athens).

The fourth event, ***George Fest 2023: Celebrating the Life and Work of George Zoupanos,*** took place on the 4th September 2023. It was co-organized and supported by:
- The National Technical University of Athens
- The Municipality of Corfu
- The Ionian University, and
- The Regional Government of the Ionian Islands (Periphery of the Ionian Islands).

The Scientific Organizers were:
Gustavo Branco (IFT, Lisboa), Athanasios Chatzistavrakidis (Bošković Inst.), Jan Kalinowski (Warsaw U.), Alex Kehagias (NTUA), Dieter Lüst (LMU, Munich and MPI, Munich) and Margarida (Gui) N. Rebelo (IFT, Lisboa).

The fifth event, ***Workshop on Tensions in Cosmology*** took place from 6 to 13 September, 2023. It was organized and supported by:
- The National Technical University of Athens
- The National Observatory of Athens
- The Ionian University
- The Municipality of Corfu
- The Regional Government of the Ionian Islands (Periphery of the Ionian Islands).

The Scientific Organizers were:
E. Saridakis (National Observatory of Athens), S. Basilakos (Academy of Athens), S. Capozziello (Università di Napoli), E. Di Valentino (University of Sheffield), O. Mena (Universidad de Valencia) S. Pan (Presidency University), J. Levi Said (University of Malta)

The sixth event, ***Quantum Gravity, Strings and the Swampland,*** took place from 12 to 19 September 2023.
It was co-organized and supported by:
- The National Technical University of Athens
- The Ionian University
- The Municipality of Corfu
- The Regional Government of the Ionian Islands (Periphery of the Ionian Islands)

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The Scientific Organizers were:
D. Anninos (King's College), T. Anous (U. Amsterdam), D. Giataganas (National Sun-yat Sen U), A. Gnecchi (INFN, Padova), A. Fotopoulos (Northeastern U.), A. Kehagias (NTU Athens), D. Lüst (LMU & Max Planck Inst), I. Papadimitriou (NKU Athens), A. Porfyriadis (CCTP, U. Crete), J. Rosseel (U Wien)

The seventh event, ***Workshop on Noncommutative and Generalized Geometry in String theory, Gauge theory and Related Physical Models***, took place from 18 to 25 September 2023. It was supported by:
- The National Technical University of Athens
- The Municipality of Corfu
- The Ionian University, and
- The Regional Government of the Ionian Islands (Periphery of the Ionian Islands).

The Scientific Organizers were:
K. Anagnostopoulos (NTU Athens), P. Aschieri (U. Piemonte Orientale), A. Chatzistavrakidis (Bošković Inst.), H. Kawai (National Taiwan University), J. Nishimura (KEK & SOKENDAI Tsukuba), D. O'Connor (Dublin Instit Adv Studies), R. Szabo (Heriot-Watt), P. Vitale (INFN, Napoli & U. Napoli Federico II), ,S. Watamura (Tokohu U.) G. Zoupanos (NTU Athens)

The eighth event, ***KICC-Villum Summer School on Gravitational Waves***, took place from 24 September to 1 October 2023. It was co-organized and supported by:
- The National Technical University of Athens
- The Ionian University
- The Municipality of Corfu
- The Regional Government of the Ionian Islands (Periphery of the Ionian Islands)
- The ERC
- The Kavli Inst for Cosmology in Cambridge
- The Villum Fonden

The Scientific Organizers were:
K. Anagnostopoulos (NTU Athens), P. Aschieri (U. Piemonte Orientale) ,H. Kawai (National Taiwan University), F. Lizzi (U Napoli Federico II and INFN Napoli), J. Nishimura (KEK & SOKENDAI Tsukuba), D. O'Connor (Dublin Instit Adv Studies), H. Steinacker (Vienna U.), R. Szabo (Heriot-Watt), S. Watamura (Tokohu U.), G. Zoupanos (NTU Athens).

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The outcome was indeed very impressive, given that the sessions gathered 531 registration in total. In short, internationally leading scientists have been gathered to participate to the School and Workshops, giving lectures and creating a unique and stimulating scientific environment for the senior as well as the young scientists.

More specifically, the W***orkshop on Future Accelerators*** has attracted 50 senior scientists; 40 of them have presented their current research project as workshop speakers.

The full programme of the Workshop was the following:

Sunday 23/4/2023	**Registrations**		
Monday 24/4/2023			
9.25-9.30	**Opening**		
9.30-10.30	Ippolito	Valerio	Highlights and future perspectives of LHC experiments
10.30-11.30	You	Tevong	The physics case for next-generation colliders
11.30-12.15	List	Jenny	Physics at a future e+e- Higgs factory
12.15-12.40	Coffee Break		
12.40-13.25	Dam	Mogens	Detector challenges for Higgs factories
13.25-14.10	Papaphilippou	Yani	High Luminosity LHC (HL-LHC)
14.10-16.00	Lunch Break		
16.00-16.45	Casse	Gianluigi	Solid State Tracking Detectors for Experiments at Future Circular Colliders
16.45-17.30	Gouskos	Loukas	Higgs Physics with Future Accelerators
17.30-17.50	Coffee Break		
17.50-18.35	Stapnes	Steinar	Road Towards Energy Efficient Accelerators
18.35-18.55	Gautam	Viveka	Hybridization and assembly of LGAD devices for the HGTD ATLAS upgrade
Tuesday 25/4/2023			
9.30-10.15	Wang	Jin	Higgs boson current status from the experiment side
10.15-11.00	Baer	Howard	Higgs physics in the era of future accelerators
11.00-11.45	Pena	Javier Jimenez	QCD/top Physics: current status from the experiment side
11.45-12.10	Coffee Break		
12.10-12.55	Kluth	Stefan	QCD/top physics at future colliders
12.55-13.40	Papadopouos	Costas	QCD higher-order corrections current status and prospects
13.40-14.00	Pica	Lorenzo	Selecting long-lived particles in the first trigger level at the LHC
14.00-16.00	Lunch Break		
16.00-16.45	Kaadze	Keti	Beyond the SM searches â current status from the experiment side
16.45-17.30	Torre	Riccardo	Beyond SM phenomena at future accelerators
17.30-17.50	Coffee Break		
17.50-18.35	Pokorski	Stefan	

18.35-18.55	Pareti	Andrea	Dual-Readout Calorimetry for future HEP Experiments
18.55-19.15	Polacek	Stanislav	Performance of the ATLAS Tile Calorimeter
20.00	Welome Reception		
Wednesday 26/4/2023			
9.30-10.15	Han	Tao	Physics at Future Circular e+e- and mu+mu- Colliders
10.15-11.00	Kuprash	Oleg	Electroweak Physics current status from the experiment side
11.00-11.30	Coffee Break		
11.30-12.15	Blondel	Alain	Electroweak interactions and neutrinos
12.15-13.00	Vicini	Alessandro	Electroweak physics at present and future colliders
13.00-13.30	Vannoli	Leonardo	ATLAS ITk Pixel Detector Overview
13.30-15.45	Lunch Break		
15.45-16.30	Pinfold	James	A New Probe of BSM Physics at the LHC - the MoEDAL-MAPP Experiment
165.30-17.00	Garcia Alonso	Andrea	The ATLAS ITk Strip Detector for the Phase-II LHC Upgrade
17.00-17.20	Coffee Break		
17.20-18.05	Blanke	Monika	Future prospects for B physics
Thurdsay 27/4/2023			
9.30-10.15	Perazzini	Stefano	Flavour Physics: current status from the experiment side
10.15-11.00	Renner	Sophie	Flavour physics at future colliders
11.00-11.30	Coffee Break		
11.25-12.10	Abramov	Andrey	The FCC Feasibility Study and Global Collaboration
12.10-12.55	Abramov	Andrey	Design and optimisation of the FCC-ee and FCC-hh collimation systems
12.55-13.40	Panci	Paolo	EW multiplets at future colliders, the related cosmology and complementary probes
13.40-16.00	Lunch Break		
16.00	Excursion		
Friday 28/4/2023			
10.00-10.45	Laktineh	Imad	Calorimetry at Future Circular Collider Experiments
10.45-11.30	Antusch	Stefan	Neutrino physics at future colliders
11.30-12.15	Keus	Venus	Dark matter theory in the era of future accelerators
12.15-12.45	Coffee Break		
12.45-13.158	Gandolfi	Giovanni	Astroparticle constraints from high-z galaxies
13.15-14.00	Lengo	Paolo	Gaseous tracking detectors
14.00-16.00	Lunch Break		
16.00-16.45	Semertzidis	Yannis	The high-physics sensitivity of the storage ring proton EDM experiment
16.45-17.45	Nadia	Pastrone	Detector Challenges at a Future Muon Collide

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The ***Workshop on Theoretical Particle Cosmology in the Early and Late Universe*** has attracted 40 senior scientists; 20 of them have presented their current research project as workshop speakers.

The full programme of the Workshop was the following:

Sunday 30/4/2023	**Registrations**		
Monday 1/5/2023			
8.30-9.15	**Registrations**		
9.15-9.30	**Opening**		
9.30-10.30	Ibarra	Alejandro	Particle dark matter: old and new probes
10.30-11.00	Coffee Break		
11.00-11.45	Qerimi	Gramos	Effective Field Theories for Dark Matter Pairs in the Early Universe
11.45-12.30	Lehmann	Benjamin	Kinetic recoupling of dark matter
12.30-14.30	Lunch Break		
14.30-15.15	Socha	Anna	Higgs boson-induced reheating and its implications for dark matter
15.15-16.00	Park	Jong-Chul	GLIMPSE: Graphene-based Light Invisible Matter Particle Search
16.00-16.30	Coffee Break		
16.30-17.00	Discussion Session: Dark matter. Lead by B. Lehman and S. Witte		
Tuesday 2/5/2023			
9.30-10.30	Stergioulas	N.	Astrophysics with Gravitational Waves from Compact Binary Coalescences
10.30-11.00	Coffee Break		
11.00-11.45	Bai	Yang	Origin of nontopological soliton dark matter and gravitational waves
11.45-12.30	Xu	Yong	Gravitational Wave from Graviton Bremsstrahlung during Reheating
12.30-14.30	Lunch Break		
14.30-15.15	Steingasser	Thomas	Bubble nucleation rates at 1-loop from first principles
15.15-16.00	Vanvlasselaer	Miguel	Baryogenesis with relativistic walls
16.00-16.30	Coffee Break		
16.30-17.00	Discussion Session: Gravitational waves. Lead by Y. Bai		
Wednesday 3/5/2023			
9.30-10.30	Odintsov	Sergei	Unifying the early-time inflation with Late-time dark energy epoch: the case of modified gravity
10.30-11.00	Coffee Break		

11.00-11.45	Kaikov	Oleg	How special are black holes? Correspondence with objects saturating unitarity bounds in generic theories
11.45-12.30	Renevey	Cyril	Exploring the non-singular bounce from spatial curvature in inflationary cosmology and its potential CMB imprints
12.30-14.30	Lunch Break		
20.00	Social Events		
Thursday 4/5/2023			
9.30-10.30	Bastero-Gil	Mar	Cosmic Inflation: from CMB scales to reheating
10.30-11.00	Coffee Break		
11.00-11.45	Barman	Basabendu	Gravity as a Portal to Reheating, Leptogenesis and Dark Matter
11.45-12.30	Pallis	Constantinos	High-Scale Supersymmetry from Inflection-Point Sgoldstino Inflation
12.30-14.30	Lunch Break		
14.30-15.15	Mantziris	Andreas	Cosmological implications of the Higgs vacuum metastability during inflation
15-.15-16.00	Discussion Session		
Friday 5/5/2023			
9.30-10.30	Witte	Samuel	How to Relax the Hubble Tension.
10.30-11.00	Coffee Break		
11.00-11.45	Nalecz	Ignacy	First-order phase transitions in Twin Higgs models
11.45-12.30	Tawfik		Pertubative and Non-Perturbative Equations of State and Bulk Viscosity Early Universe

The ***Workshop on the Standard Model and Beyond*** has attracted 130 senior and young scientists in total; 118 of them have presented their current research project as workshop speakers.

The full programme of the Workshop was the following:

Sunday 27/8/2023	**Registration**		
Monday 28/8/2023			
9.00-9.30	**Opening**		
9.30-10.30	Zhuang	Xuai	Recent results from ATLAS
10.30-11.00	Mankel	Rainer	Higgs physics in ATLAS and CMS
11.00-11.30	Coffee Break		
11.30-12.30	Tkaczyk	Slawomir Marek	Recent Results from CMS

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12.30-13.00	Talbert	Jim	Revisiting extractions of the strong coupling constant with soft collinear effective theory
13.00-13.30	Praszalowicz	Michal	20 years of Theta+
13.30-.16.00	Lunch Break		
16.00-16.30	Moreno	Jesus	Entanglement and high energy physics
16.30-17.00	Gavela	Belen	The QCD axion sum rule
17.00-17.30	Strumia	Alessandro	Modular invariance and the QCD angle
17.30-18.00	Serpico	Pasquale Dario	The QCD phase transition behind a PBH origin of LIGO/Virgo events?
18.00-18.20	Coffee Break		
18.20-18.50	Allanach	Benjamin	The current status of B-anomalies and Z' explanations
Tuesday 29/8/2023			
9.00-10.00	Schweda	Kai	Highlights from ALICE
10.00-10.30	Bersini	Jahmall Matteo	The θ-angle physics at finite baryon density
10.30-11.00	Grzadkowski	Bohdan	Semisymmetries of Two-Higgs-doublet models
11.00-11.30	Coffee Break		
11.30-12.00	Dorsner	Ilja	Triple-leptoquark interactions for tree- and loop-level proton decays
12.00-12.30	Buccella	Franco	CP violating asymmetries in $D^0 \rightarrow PP$ decay
12.30-13.00	D' Ambrosio	Giancarlo	Theory of Rare Kaon decays
13.00-13.30	Rossi	Elvira	SM (QCD+EW) in ATLAS and CMS
13.30-16.00	Lunch Break		
16.00-16.30	Guryn	Wlodzimierz	Physics with tagged forward protons in proton-proton collisions at RHIC
16.30-17.00	Argyropoulos	Spyros	Constraining electroweak baryogenesis models with searches for cascade decays of heavy Higgs bosons in ATLAS
17.00-17.30	Valencia	German	Constraining new physics with hyperon decays
17.30-17.45	Sahoo	Dibyakrupa	Probing CP violation in Higgs -> tau+ tau- gamma
17.45-18.05	Coffee Break		
18.05-18.35	Papathanasiou	Georgios	Evaluating Feynman integrals with the help of the Landau equations
18.35-19.05	Kokorelis	Christos	Sterile neutrinos and Î¼-term phenomenology from D-brane string models
20.00	Welcome Reception		
Wednesday 30/8/2023			
9.00-9.30	Guo	Jun	Exotics and BSM (non SUSY, non DM) in ATLAS and CMS
9.30-10.00	Tevong	You	Potential positivity bounds on a positively light Higgs
10.00-10.30	Dey	Atri	A smoking gun signature of 3HDM
10.30-11.00	Pasechnik	Roman	Phenomenology of flavoured 3HDMs
11.00-11.30	Coffee Break		

11.30-12.00	Ivanov	Igor	Confronting CP symmetry of order 4 with experimental data
12.00-12.30	Ducu	OtiliaAnamaria	SUSY in ATLAS and CMS
12.30-13.00	Sahu	Bisnupriya	Dark Matter in ATLAS and CMS
13.00-13.30	Keus	Venus	Dark matter theory in the era of future accelerators
13.30-16.00			Lunch Break
16.00-16.30	Sarkar	Sarben	Beyond the standard Model from axions to nonHermiticity
16.30-17.00	Pinfold	James	The Search for Milli-Charged Matter at the LHC
17.00-17.30	Gelmini	Graciela B	Catastrogenesis: dark matter and gravitational waves from ALP cosmic string-wall system annihilation
17.30-17.45	Thongyoi	Nakorn	A vector-like top quark portal to a minimal non-Abelian vector dark matter
17.45-18.05			Coffee Break
18.05-18.20	Goncalves	Joao PedroPino	Exploring mixed lepton-quark interactions in non-resonant leptoquark production at the LHC
18.20-18.50	Olechowski	Marek	Investigating ALP Dark Matter through the Early Universe Dynamics of PQ Field
Thursday 31/8/2023			
9.00-9.30	Marfatia	Danny	How to measure the reactor neutrino flux below 2 MeV
9.30-10.00	Sessolo	Enrico Maria	Naturally small neutrino masses from asymptotic safety
10.00-10.30	Blasone	Massimo	Neutrino oscillations in the interaction picture
10.30-11.00	Kowalska	Kamila	Phenomenology with trans-Planckian asymptotic safety
11.00-11.30			Coffee Break
11.30-12.00	Morselli	Aldo	An update on Indirect dark-matter searches with gamma-rays experiments status and future plans from 300 KeV to 100 TeV
12.00-12.30	Rubio	Javier	The Higgs field and the nature of gravity
12.30-13.00	Mahmoudi	Nazila	B anomalies in the post-R_K era
13.00-13.30	Pomarol	Alex	Cornering BSMs with Positivity
13.30-16.00			Lunch Break
16.00-16.30	Martinelli	Guido	Recent developments in Flavor physics, the Unitarity Fit, Anomalies and all that
16.30-17.00	NICOLIS	Stam	Flavor and Fluctuations
17.00-17.30	Branco	Gustavo C.	Unitarity Relations in the Presence of Vector-Like Quarks
17.30-18.00	Deppisch	Frank	Probing New Physics with Double Beta Decay
18.00-18.20			Coffee Break
18.20-18.35	Bastos	Jose	Extending the SM with vector-like quarks consequences for CKM unitarily and CP violation
18.35-19.05	Lopez-Pavon	Jacobo	New Physics searches using ProtoDUNE and the CERN SPS accelerator
Friday 1/9/2024			

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9.00-9.30	Greljo	Admir	Flavor puzzles of the Standard Model effective field theory
9.30-10.00	Lopez Honorez	Laura	Dark matter probes
10.00-10.30	Mitsou	Vasiliki	Looking for charged detector-stable particles at the LHC
10.30-11.00	Herrero Garcia	Juan	Extended Dark Sectors, Neutrino Masses and the Baryon Asymmetry
11.00-11.30	Coffee Break		
11.30-11.50	Maselek	Rafal	Searching for Dark Matter in the LHC with the help of Machine Learning
11.50-12.20	Kazuki	Sakurai	Quantum process tomography at colliders
12.20-12.50	Priyanka Lamba	Priyanka Lamba	Quantum information and CP measurement in $H \to \tau^+ \tau^-$ at future lepton colliders
14.00-19.00	Excursion		
Saturday 2/9/2024			
9.00-10.00	Teubert	Frederic	Recent results from LHCb
10.00-10.30	Lisi	Eligio	Recent topics in the analysis of neutrino mass-mixing parameters
10.30-11.00	King	Steve	Neutrino Mixing Sum Rules and Littlest Seesaw Models
11.00-11.30	Coffee Break		
11.30-12.00	Patellis	Gregory	Split NMSSM from dimensional reduction of a 10D, N=1, E(8) gauge theory over a modified flag manifold
12.00-12.30	Kotlarski	Wojciech	One (or maye two) SUSY Higgses at 95 GeV?
12.30-13.00	Morais	Antonio	Audible Gravitational Echoes of New Physics
13.00-13.30	Kim	Jihn	Anomalies and parities for quintessential and ultra-light axions
13.30-16.00	Lunch Break		
16.00-16.30	Sola Peracaula	Joan	Running vacuum approach to the quantum vacuum theoretical and phenomenological implications
16.30-17.00	Botella	Francisco J.	Taking advantage of entanglement in B factories to measure the weak phase gamma
17.00-17.30	Konishi	Kenichi	Anomaly and Dynamics in Strongly-coupled Gauge Theories. New Criteria for Different Phases and Lessons from Supersymmetric Theories
17.30-18.00	Dedes	Athanasios	The code SmeftFR handling vertices in SMEFT
18.00-18.20	Coffee Break		
18.20-18.35	Rehult	Anders	CP Violation in Rare B Decays as a Window to New Physics
18.35-18.50	Mukhaeva	Alfiia	Impact of a non-universal Z' on the B-> K*ll and B -> K*vv processes
18.50-19.20	Belyaev	Alexander	The Muon anomalous magnetic moment from the Fermionic Portal to Vector Dark Matter
Sunday 3/9/2024			
9.00-9.30	Kolb	Rocky	Gravitational Production of Massive Spin-2 Particles

9.30-10.00	Pilaftsis	Apostolos	Geometric Quantum Field Theories
10.00-10.30	Nilles	Hans Peter	The Hidden Power of Modular Flavor Symmetry
10.30-11.00	Porod	Werner	Predictions for composite Higgs models from gauge/gravity dualities
11.00-11.30			Coffee Break
11.30-12.00	Cristinziani	Markus	Top physics in ATLAS and CMS Top physics in ATLAS and CMS
12.00-12.30	Di Bari	Pasquale	A grandunified RHINO miracle in IceCube
12.30-13.00	Nielsen	Holger Bech	Model for dark matter, stopping in the shielding, just at DAMA
13.00-13.30	Mondragon	Myriam	Finite Unified Theories Results and Perspectives
13.30-16.00			Lunch Break
16.00-16.30	Lalak	Zygmunt	Primordial black holes, dark matter and gravitational waves with light scalars
16.30-17.00	Rius	Nuria	On low scale baryogenesis
17.00-17.30	Abel	Steven	Non renormalisation theorems and UV/IR mixing
17.30-17.45	Zoltan	Peli	Precise prediction for the W-boson mass in U(1) extensions of the standard model
17.45-18.05			Coffee Break
18.05-18.20	Seller	Karoly	Real effective potentials for phase transitions in models with extended scalar sectors
18.20-18.50	Davis	Nikolaos	Robust intermittency analysis in heavy ion collisions overcoming challenges through novel techniques.
18.50-19.20	Frampton	Paul	Atmospheric Neutrino Octant from Flavour Symmetry
Tuesday 5/9/2024			
9.00-9.30	Tsesmelis	Emmanuel	The Path Towards the Future Circular Collider at CERN
9.30-10.00	Torre	Riccardo	BSM perspective on Future Colliders
10.00-10.30	Vlastou	Rosa	Neutron physics at the CERN n_TOF facility
10.30-11.00	Trocsanyi	Zoltan	On the status of the superweak extension of the standard model
11.00-11.30			Coffee Break
11.30-12.00	Steingasser	Thomas	Higgs criticality in and beyond the SM
12.00-12.30	Benakli	Karim	Some aspects of anomalous U(1)
12.30-13.00	Branchina	Vincenzo	Standard Model & extra dimensions: UV sensitivity, Higgs mass and vacuum energy
13.00-13.30	Ketov	Sergey	Improved single-field models of inflation and production of primordial black holes
13.30-16.00			Lunch Break
16.00-16.30	Frere	Jean-Marie	Exotics lead the way to gluebalss --- through anomalies
16.30-16.45	Konitopoulos	Spyros	Dark gravitational sectors on a generalized scalar-tensor vector bundle model A model for Dark Matter emerging from a modified geometry
16.45-17.00	Gattus	Viola	Supergeometry in Effective Quantum Field Theories
17.00-17.30	Ghilencea	Dumitru	Standard Model in Weyl geometry and Weyl

			anomaly
17.30-17.50			Coffee Break
17.50-18.20	Oda	Ichiro	BRST formalism of Weyl Invariant Gravity
18.20-18.50	Hell	Anamaria	Exorcizing the ghosts in higher-derivative gravity
Wednesday 6/9/2024			
9.00-9.30	Antoniadis	Ignatios	Landscape, swampland and extra dimensions
9.30-10.00	Rizos	Ioannis	On three-generation super no-scale models in heterotic string theory
10.00-10.30	Mavromatos	Nikolaos	
10.30-11.00	Asorey	Manuel	Trace anomaly and induced action in metric-scalar backgrounds
11.00-11.30			Coffee Break
11.30-12.00	Espinosa	Jose	Applications of the Tunneling Potential Formalism
12.00-12.30	Coriano	Claudio	Testing Nonlocal Cosmologies from the Conformal Anomaly Effective Action
12.30-13.00	Koutroulis	Fotis	Thermal effects in Ising Cosmology
13.00-13.30	alvarez	enrique	Unimodular gravity
13.30-16.00			Lunch Break
16.00-16.30	Leontaris	George	On non-geometric flux compactifications
16.30-17.00	Mukherjee	Samadrita	A twisted tale of the transverse-mass tail

George Fest 2023: Celebrating the Life and Work of George Zoupanos

This event was dedicated to George Zoupanos, our lifelong friend and collaborator. George has been the brain, heart and soul of the Corfu meetings since 1982. It is long overdue to honor his life work and contributions to theoretical high energy physics and the organization of many important conferences, workshops, and schools in Corfu. It was an occasion to recollect our numerous lively and productive interactions with him, and undoubtedly, to have a lot of fun with him and about him.

The full programme of the Workshop was the following:

Andreas Boudouvis, Rector of NTUA
Ioannis Chatjigeorgiou, Vice Rector of NTUA
Katerina Zachariadou, President of Hellenic Society for the Study of High Energy Physics
Aristides Baltas, Former Minister of Education
Nikos Markatos, Former Rector of NTUA
Representative of the Mayor **Meropi Ydraiou**
Greetings by Mayor of Corfu **Meropi Ydraiou**
Dimitrios Metallinos, President of the Corfu Municipally Council
Chrysanthos Sarlis, Former Mayor of Corfu

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Kostas Nikolouzos, Former Mayor of Corfu
Greetings by Former Mayor of Corfu Ioannis **G. Kourkoulos**
Greetings by Former Mayor of Corfu **Sotiris Milalef**
Jan Kalinowski (Univ. of Warsaw)
Coffee Break
Gustavo Branco (CFTP/IST, U. Lisboa)
Gui Rebelo (CFTP/IST, U. Lisboa)
Franco Buccella (INFN, Rome)
Belen Gavela (IFT-UAM/CSIC)
Graciela Gelmini (UCLA)
Coffee Break
Jihn Kim (Seoul Natl. U.)
Hans Peter Nilles (Bonn Univ.)
Roza Vlastou (NTU Athens)
Wolfgang Hollik (MPI, Munich)
Nikolaos Mavromatos (NTU Athens)
Harold Steinacker (Univ. of Vienna)
Maja Buric (Belgrade U.)
Aposotolos Pilaftsis (Univ. of Manchester)
Lunch Break
David Sutherland (Glasgow U.)
Harald Grosse (Univ. of Vienna)
Dieter Lust (Munich U., ASC and Munich, Max Planck Inst. and Munich U.)
Peter Forgacs (Tours U.)
Emilian Dudas (Ecole Polytechnique)
Riccardo Barbieri (Pisa, Scuola Normale Superiore)
Athanasios Chatzistavrakidis (Boskovic Inst., Zagreb)
Stefan Theisen (Potsdam, Max Planck Inst.)
Konstantinos Anagnostopoulos (NTU Athens)
Serguey Petkov (SISSA)
Coffee Break
Myriam Mondragon (Instituto de Fisica, UNAM)
Francisco J. Botella (IFIC, U. Valencia-CSIC)
Steven King (University of Southampton)
Zygmunt Lalak (University of Warsaw)
Alexander Belyaev (University of Southampton)
George Savvidi (NCSR Demokritos)
Anamaria Hell (LMU Munich)
Gregory Patellis (CFTP-IST, U. Lisboa)

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PROCEEDINGS OF SCIENCE

Konstantinos Kordas (AUTH)
Manos Saridakis (NOA)
Luis Fayard (LAL, Orsay)
Greetings by **Jean Marc Gerard** (Louvain U., CP3)
Greetings by **Jen Govaerts** (Louvain U.)
Greetings by **Costas Bachas** (Ecole Normale Superieure, Paris)
Greetings by **Patricia McBride** (CERN and Fermilab)
Greetings by **Frans R. Klinkhamer** (KIT, Karlsruhe)
Greetings by **Jon Bagger** (APS, Maryland)
Greetings by **Piotr Karasinski** (Citigroup Global Markets)
Greetings by **Jean Trân Thanh Vân** (Orsay, LPT)
Greetings by **Neville Harnew** (University of Oxford)
Greetings by **Pierre Salati** (Annecy, LAPTH)
Greetings by **Sven Heinemeyer** (Madrid, IFT)
Greetings by **Monica Pepe Altarelli** (INFN, Perugia)
Paolo Aschieri (Piemonte Orientale U.)
Jean-Marie Frere (BEL-center and ULB-PhysTh)
Greetings by **Luis Alvarez-Gaume** (CERN)
Greetings by **Stefan Pokorski** (Univ. of Warsaw)
Greetings by **Ahmed Ali** (DESY)
George Zoupanos

The ***Workshop on Tensions in Cosmology*** has attracted 65 senior and young scientists in total; 54 of them have presented their current research project as workshop speakers.

The full programme of the Workshop was the following:

Wednesday 6/9/2023 Registration			
Thursday 7/9/2023			
8.45-.9.00	**Welcome**		
9.00-10.00	Perivolaropoulos	Leandros	The challenges of Î›CDM and the physics transition approaches.
10.00-11.00	Risaliti	Guido	Quasars as high-redshift standard candles
11.00-11.30	Coffee Break		
11.30-12.00	Dabrowski	Mariusz P.	Almost extensivity of Barrow entropy as favoured by the full dynamical and geometrical set of cosmological data.
12.00-12.30	Di Bari	Pasquale	Addressing the cosmological tensions within a Majoron model.
12.30-13.00	Dialektopoulos	Kostas	Update on the use of Artificial Neural Networks in cosmology

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13.00-16.00	Lunch Break		
16.00-16.30	Petronikolou	Maria	Alleviating H0 tension through modified entropies
16.30-17.00	Pallis	Constantinos	High-Scale Supersymmetry from Inflection-Point Sgoldstino Inflation
17.00-17.30	Coffee Break		
17.30-18.00	Sorce	Jenny	Disentangling tensions from systematics with CLONES (Constrained Local & Nesting Environment Simulations)
18.00-18.30	Tzerefos	Charalampos	Signatures of no-scale supergravity in Nanograv and beyond
18.30-19.00	Babichev	Eugeny	NANOGrav spectral index γ=3 from melting domain walls
Friday 8/9/2023			
9.00-10.00	Antoniadis	Ignatios	Landscape, Swampland and extra dimensions
10.00-11.00	Staicova	Denitsa	On the Robustness of the Constancy of the Supernova Absolute Magnitude Non-parametric Reconstruction & Bayesian approaches
11.00-11.30	Coffee Break		
11.30-12.00	Torres	Luis Adrian Escamilla	Reconstructing the Dark Energy
12.00-12.30	Dent	James	Primordial black holes, first order phase transitions, and superradiance
12.30-13.00	Tsilioukas	Stelios	Dark Energy from topology change at the foam level
14.00	Excursion		
Saturday 9/9/2024			
9.00-10.00	Beaton	Rachael	The Astrophysics of the Cosmic Distance Scale
10.00-11.00	Kenworthy	W DArcy	Two out of Three Ain't Bad A SH0ES Two Rung Distance Ladder
11.00-11.30	Coffee Break		
11.30-12.00	Akarsu	Ozgur	Simultaneous alleviation of major cosmological tensions through $\Lambda_{\ms}$CDM cosmology
12.00-12.30	Zarikas	Vasilios	Renormalization group approaches to Quantum Gravity and Tensions in Modern Cosmology
12.30-13.00	Wang	Shao-Jiang	Is there a Hubble-variation tension?
13.00-16.00	Lunch Break		
16.00-16.30	Di Bari	Pasquale	Addressing the cosmological tensions within a Majoron model.
16.30-17.00	Leon Torres	Genly	Fractional Cosmology with conformal and nonminimal couplings a possible resolution to H0 tension?
17.00-17.30	Coffee Break		
17.30-18.00	Duchaniya	Lokesh Kumar	Cosmological implication of f(T) gravity models through phase space analysis
18.00-18.30	Abebe	Amare	he more things change

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Sunday 10/9/2023			
9.00-10.00	Poulin	Vivian	The Ups and Downs of Early Dark Energy
10.00-11.00	Vagnozzi	Sunny	Seven hints that early-time new physics alone is not sufficient to solve the Hubble tension
11.00-11.30			Coffee Break
11.30-12.00	Katirci	Nihan	Scalar field emulator via anisotropically deformed vacuum energy
12.00-12.30	Migkas	Konstantinos	Probing H0 isotropy and bulk flows with eROSITA and galaxy cluster scaling relations
12.30-13.00	Kalbouneh	Basheer	The multipolar structure of the local universe
13.00-16.00			Lunch Break
16.00-16.30	Hell	Anamaria	Exorcizing the ghosts in higher-derivative gravity
16.30-17.00	Jiang	Jun-Qian	From the Hubble tension to the Harrison-Zeldovich spectrum
17.00-17.30			Coffee Break
17.30-18.00	Rivera	CeliaEscamilla	Quasar f(T) cosmologies
18.00-18.30	Schiff	Jonathan	Rethinking Recombination Primordial magnetic fields, small-scale inhomogeneities, and their implications for the Hubble tension
18.30-19.00	Specogna	Enrico	A (DOUBLE) TAKE ON THE γL INDEX
			-
Monday 11/9/2024			-
10.00-11.00	Melchiorri	Alessandro	Cosmic Microwave Background Polarization Measurements and Cosmological Data Tensions
11.00-11.30			Coffee Break
11.30-12.30	Giare	William	Dark Interactions in the CMB
12.30-13.00	Frampton	Paul	A Model of Dark Matter and Energy
13.00-16.00			Lunch Break
16.00-16.30	Otalora	Giovanni	Generating primordial fluctuations from modified teleparallel gravity
16.30-17.00	Nielsen	Holger Bech	Domain Walls and Hubble constant Tension
17.00-17.30			Coffee Break
17.30-18.00	Lu	Shiyun	A possible scheme to alleviate the small-scale tension encountered by fuzzy dark matter
18.00-18.30	Balhara	Harshna	Observational cosmology in higher-order F(R,G) Gravity
18.30-19.00	Dhankar	Praveen Kumar	VISCOUS MODIFIED GHOST SCALAR FIELD DARK ENERGY MODELS WITH VARYING G
Tuesday 12/9/2024			
9.00-10.00	Van Putten	Maurice	The Hubble parameter of the Local Distance Ladder from dynamical dark energy with no free parameters
10.00-11.00	Pollo	Agnieszka	Galaxy evolution, observational biases and cosmological tensions
11.00-11.30			Coffee Break

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11.30-12.00	Hu	Yu-Min	Cosmological tension and the strong coupling problem in modified teleparallel gravity
12.00-12.30	Ben-Dayan	Ido	Resolution of cosmological tensions using Unparticles
12.30-13.00	Ozulker	Emre	Tackling the tensions of cosmology with a negative dark energy density
13.00-16.00	Lunch Break		
16.00-16.30	Asencio	Elena	The distribution and morphologies of Fornax Cluster dwarf galaxies suggest they lack dark matter
16.30-17.00	Gergely	Laszlo	Static and radiative cylindrically symmetric spacetimes
17.00-17.30	Coffee Break		
17.30-18.00	Skorda	Marianthi	Alleviating H0 tension in f(G) gravity

The ***Workshop on Quantum Gravity, Strings and the Swampland*** has attracted 45 senior and young scientists in total; 35 of them have presented their current research project as workshop speakers.

The full programme of the Workshop was the following:

Tuesday 12/9/2024	**Registration**		
Wednesday 13/9/2024			
9.30-10.00	**Welcome**		
10.00-10.30	Antoniadis	Ignatios	Landscape, Swampland and extra dimensions
10.30-11.00	Coffee Break		
11.00-11.30	Brustein	Ramy	Black hole singularities and horizons
11.30-12.00	Florakis	Ioannis	Misaligned Supersymmetry: some new results
12.00-17.30	Lunch Break		
17.30-18.00	Liatsos	Nikolaos	Gauged D=4 N=4 Supergravity
18.00-18.30	Leone	Giorgio	Misaligned SUSY in String Vacua
18.30-19.00	Nielsen	Holger Bech	A point of view of gravity as needed spontaneous breaking of local general linear group
19.00-19.30	Coffee / Discussion		
Thurdsay 14/9/2024			
9.30-10.00	Lindstrom	Ulf	Extended supersymmetry of (2,2) sigma models and a related geometry
10.00-10.30	Benakli	Karim	Some aspects of anomalous U(1)
10.30-11.00	Coffee Break		
11.00-11.30	Petrini	Michela	A systematic approach to consistent truncations
11.30-12.00	Duboeuf	Bastien	Kaluza-Klein spectroscopy beyond consistent truncation
12.00-17.30	Lunch Break		

17.30-18.00	Franken	Victor	Bridging the static patches: Holography and entanglement in de Sitter space
18.00-18.30	Rondeau	Francois	Closed FRW holography: A time dependent ER=EPR realization
18.30-19.00	Kaimakkamis	Eftychios	On the ambiguities in the form of the Wheeler-DeWitt equation
19.00-19.30			Coffee / Discussion
Friday 15/9/2024			
9.30-10.00	Dudas	Emilian	Variations on Brane Supersymmetry Breaking
10.00-10.30	Hull	Chris	Chiral p-Form Gauge Theory
10.30-11.00			Coffee Break
11.00-11.30	Gnecchi	Alessandra	
11.30-12.00	Sanli	Canberk	Gauged superconformal formulation of quiver quantum mechanics
12.00-17.30			Lunch Break
17.30-18.00	Mori	Haruka	Doubled Structures of Algebroids in Gauged Double Field Theory
18.00-18.30	Osten	David	On exceptional QP-manifolds
18.30-19.00			Coffee / Discussion
Saturday 16/9/2024			
9.30-10.00	Ceresole	Anna	Bridging the classical and quantum black hole dynamics
10.00-10.30	Bergshoeff	Eric	Carroll Fermions
10.30-11.00			Coffee Break
11.00-11.30	Bachas	Costas	Tension of Holographic Domain Walls
11.30-12.00	Hristov	Kiril	Explicit black hole thermodynamics in natural variables
12.00	Free evening/Guided Tour		
Sunday 17/9/2024			
9.30-10.00	Blumenhagen	Ralph	
10.00-10.30	Jafferis	Daniel	BTZ entropy from the worldshee
10.30-11.00			Coffee Break
11.00-11.30	Scalisi	Marco	Quantum Gravity Constraints on Cosmic Acceleration
11.30-12.00	Cribiori	Niccolo	On the origin of species thermodynamics
12.00-17.30			Lunch Break
17.30-18.00	Tringas	George	On/off scale separation
18.00-18.30	Emelin	Maxim	A top-down perspective on scale-separation
18.30-19.00	Pallis	Constantinos	High-Scale Supersymmetry from Inflection-Point Sgoldstino Inflation
19.00-19.30			Coffee / Discussion
Monday 18/9/2024			
9.30-10.00	Nishimura	Jun	1/D expansion and the emergent space-time in the Lorentzian type IIB matrix model
10.00-12.00	Discussion		

12.00-17.30	Lunch Break		
17.30-18.30	Concluding		

The ***Workshop on Noncommutative and Generalized Geometry in String theory, Gauge theory and Related Physical Models*** has attracted 63 senior and young scientists in total; 51 of them have presented their current research project as workshop speakers.

The full programme of the Workshop was the following:

Monday 18/9/2024	**Registration**		
Tuesday 19/9/2024			
9.00-9.40	Steinacker	Harold	3+1-dimensional quantum gravity on quantum space-time from the IKKT model
9.40-10.20	Lukierski	Jerzy	Doubly kappa-deformed Yang models
10.20-11.00	Lizzi	Fedele	Quantum Observers in Noncommutative Geometry
11.00-11.30	Coffee Break		
11.30-12.10	O' Connor	Denjoe	Lessons from Matrix Models on the confining/de-confining phase transitions of gauge theories
12.10-12.50	Martinetti	Pierre	Wick rotation in noncommutative geometry from torsion
12.50-13.30	Hersent	Kilian	UV/IR mixing for ϕ^4 theory on Lie algebra-type noncommutative space-times
13.30-16.00	Lunch Break		
16.00-16.40	Rivasseau	Vincent	Random tensor and stochastic analysis
16.40-17.20	Kovacik	Samuel	The Fuzzy Onion
17.20-17.50	Coffee Break		
17.50-18.30	Asano	Yuhma	Perturbative superstring theory and the IKKT matrix model
18.30-19.10	Scala	Luca	Bicrossproduct structure of rho-Poincarfi and the associated star-product
Wednesday 20/9/2024			
9.00-9.40	Nishimura	Jun	1/D expansion and the emergent space-time in the Lorentzian type IIB matrix model
9.40-10.20	Hirasawa	Mitsuaki	The effects of SUSY on the emergent spacetime in the Lorentzian type IIB matrix model
10.20-11.00	Tsuchiya	Asato	Renormalization group and quantum error correction
11.00-11.30	Coffee Break		
11.30-12.10	Watanabe	Hiromasa	Toward the application of large-N deconfinement to SU(N=3) QCD
12.10-12.50	Tekel	Juraj	Correlation functions in fuzzy scalar field theories
12.50-16.00	Lunch Break		
16.00-16.40	Sato	Matsuo	String Geometry Theory and The String Vacuum

16.40-17.20	Flood	Keegan	Principal symbols in noncommutative geometry
17.20-17.50			Coffee Break
17.50-18.30	Dolan	Brian	The fractional quantum all effect on a sphere and the Atiyah-Patodi-Singer index theorem
18.30-19.10	Nieuviarts	Gaston	Spectral triple-based Noncommutative Gauge Field Theories on AFalgebras
20.00-23.00			Welcome Reception
Thursday 21/9/2024			
9.00-9.40	Kowalski-Glikman	Jerzy	Why there is (almost) noting rather than something?
9.40-10.20	Ramgoolam	Sanjaye	Classical and quantum detection of high dimension states in AdS/CFT holography
10.20-11.00	Iorio	Alfredo	Classical gravitational anomalies of Liouville theory
11.00-11.30			Coffee Break
11.30-12.10	Kurkov	Maxim	Lie-Poisson gauge theories and k-Minkowski electrodynamics.
12.10-12.50	Prekrat	Dragan	(Non)renormalizable noncommutativity in (non)uniform phase
12.50-13.30	Bortolotti	Nicola	Probing space-time non-commutativity through Pauli exclusion principle
13.30-20.30	Excursion		
20.30-12.30	Conference Dinner		
Friday 22/9/2024			
9.00-9.40	Bonechi	Francesco	Equivariant extension of abelian Yang Mills theory
9.40-10.20	Jurco	Branislav	Double Copy from Tensor Products of Metric BV-box algebras
10.20-11.00	Dimitrijevic Ciric	Marija	Advances in quantization of braided noncommutative field theories
11.00-11.30			Coffee Break
11.30-12.10	Fioresi	Rita	Quantum differential calculus on quantum principal bundles on projective bases
12.10-12.50	Platania	Alessia	Asymptotic constraints on quantum black holes
12.50-16.00			Lunch Break
16.00-16.40	Arzano	Michele	Entanglement entropy and horizon temperature in conformal quantum mechanics
16.40-17.20	Franchino-Vinas	Sebastian	Particles in DSR
17.20-17.50			Coffee Break
17.50-18.30	Borowiec	Andrzej	Quantum deformations of BMS algebras
18.30-19.10	Bukor	Benedek	A less commutative version of quarkonium masses
Saturday 23/9/2024			
9.00-9.40	Berenstein	David	Staggered bosons and Kahler-Dirac bosons
9.40-10.20	Cederwall	Martin	The teleparallel complex

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10.20-11.00	Skvortsov	Evgeny	Noncommutative geometry and higher spin gravity/symmetry
11.00-11.30	Coffee Break		
11.30-12.10	Fiore	Gaetano	Twisted (anti-)de Sitter spaces
12.10-12.50	Hassler	Falk	Supergeneralized geometry and dualities
12.50-13.30	Osten	David	On exceptional QP-manifolds
13.30-16.00	Lunch Break		
16.00-16.40	Boffo	Eugenia	Gauge theories from spinning particles
16.40-17.20	Vysoky	Jan	Graded Jet Geometry
17.20-17.50	Coffee Break		
17.50-18.30	Valach	Fridrich	Generalised geometry for the group E_7
18.30-19.10	Mori	Haruka	Doubled Structures of Algebroids in Gauged Double Field Theory
Sunday 24/9/2024			
9.00-9.40	Castellani	Leonardo	Quantum histories and entropy of temporal entanglement
9.40-10.20	Bieliavsky	Pierre	
10.20-11.00	Liu	Chengcheng	Quantum Kaluza-Klein Theory with M2(C)
11.00-11.30	Coffee Break		
11.30-12.10	Iseppi	Roberta	Towards the BV formalism for gauge theories on noncommutative manifolds
12.10-12.50	Segreto	Sebastiano	Non-commutative GUP quantization and application to minisuperspace models
12.50-13.30	Rist	Dominik	Non-abelian gerbes with connections in higher gauge theory
13.30-14.10	Reyes Lega	Andres Fernando	Renormalization on the DFR Quantum Spacetime
14.00	Closing		

The ***KICC-Villum Summer School on Gravitational Waves*** has attracted 11 lecturers and 51 young scientists.

The full programme of the Workshop was the following:

Sunday 24/9/2023	**Registrations**		
Monday 25/9/2023			
9.30-10.30	Romero-Shaw	Isobel	History of GWs and current observational landscape
10.30-11.00	Coffee Break		
11.00-12.00	Gerosa	Davide	Principles of GW emission
12.00-12.30	Coffee Break		
12.30-13.30	Romero-Shaw	Isobel	History of GWs and current observational landscape

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13.30-16.00	Lunch Break		
16.00-17.00	Gerosa	Davide	Principles of GW emission
17.00-17.30	Coffee Break		
17.30-18.30	London	Lionel	Black Hole Perturbation Theory
20.00	Welcome Reception		
Tuesday 26/9/2023			
9.30-10.30	London	Lionel	Black Hole Perturbation Theory
10.30-11.00	Coffee Break		
11.00-12.00	Kavanagh	Chris	Post-Newtonian Theory for Compact Binaries
12.00-12.30	Coffee Break		
12.30-13.30	Kavanagh	Chris	Post-Newtonian Theory for Compact Binaries
13.30-16.00	Lunch Break		
16.00-17.00	Pound	Adam	Extreme Mass-Ratio Inspirals & Gravitational Self-Force
17.00-17.30	Coffee Break		
17.30-18.30	Pound	Adam	Extreme Mass-Ratio Inspirals & Gravitational Self-Force
Wednesday 27/9/2023	Poster Session		
Thursday 28/9/2023			
9.30-10.30	Saridakis	Manos	Theories of Gravity Beyond GR
10.30-11.00	Coffee Break		
11.00-12.00	Saridakis	Manos	Theories of Gravity Beyond GR
12.00-12.30	Coffee Break		
12.30-13.30	Saridakis	Manos	Theories of Gravity Beyond GR
13.30-16.00	Lunch Break		
16.00-17.00	Del Pozzo	Walter	Gravitational Wave Data Analysis
17.00-17.30	Coffee Break		
17.30-19.00	Del Pozzo	Walter	Gravitational Wave Data Analysis
20.00	Conference Dinner		
Friday 29/9/2023			
9.30-10.30	Clough	Katy	Hands-on intro to numerical relativity
10.30-11.00	Coffee Break		
11.00-12.00	Clough	Katy	Hands-on intro to numerical relativity
12.00-12.30	Coffee Break		
12.30-13.30	Carullo	Gregorio	Tests of General Relativity
13.30-16.00	Lunch Break		
16.00-17.00	Green	Stephen	Machine Learning
17.00-17.30	Coffee Break		
17.30-19.00	Green	Stephen	Machine Learning
Saturday 30/9/2023			

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9.30-10.30	Brito	Richard	Dark Matter & Fundamental Fields
10.30-11.00	Coffee Break		
11.00-12.00	Brito	Richard	Dark Matter & Fundamental Fields
12.00-12.30	Coffee Break		
12.30-13.30	Carullo	Gregorio	Tests of General Relativity
13.30-16.00	Lunch Break		
16.00-17.00	Clough	Katy	Hands-on intro to numerical relativity
17.00-17.30	Coffee Break		
17.30-19.00	Clough	Katy	Hands-on intro to numerical relativity

Most of the presentations appeared online in the CORFU2023 homepage just after they were delivered: http://www.physics.ntua.gr/corfu2023/lectures.html

We sincerely thank everybody who contributed to the success of CORFU2023, in particular the young students that came long ways from many different countries. Special thanks are due to all speakers and the organizers, the conference secretary Mrs. Ifigenia Moraiti and the group of our graduate students who helped in various ways and contributed in a very significant manner to the success of the meeting. Finally, we wish to express our gratitude to our sponsors whose financial contribution made it all possible.

They were:

1. ERC
2. National Technical University of Athens
3. School of Applied Mathematical and Physical Sciences (SAMPS)
4. National Observatory of Athens
5. Municipality of Corfu
6. Region of Ionian Islands
7. Ionian University
8. OTE: National Telecommunication Company
9. Mainz Institute for Theoretical Physics
10. Kavli Inst for Cosmology in Cambridge
11. Villum Fonden
12. CERN
13. Deutsches Elektronen-Synchrotron (DESY)
14. Max Planck Institute for Physics
15. Max Planck Institute for Gravitational Physics (Albert Einstein Institute)
16. Sommerfeld Center for Theoretical Physics
17. National Center of Scientific Research “Demokritos”
18. Athens University

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19. SISSA: Scuola Internazionale Superiore di Studi Avanzati
20. ICTP: The Abdus Salam International Centre for Theoretical Physics
21. IPPP Durham: Institute for Particle Physics Phenomenology
22. LAPP: Laboratoire d'Annecy – le - Vieux de Physique des Particules
23. LAPTH: Laboratoire d'Annecy – le - Vieux de Physique Theorique
24. LPTENS: Laboratoire de physique théorique ENS
25. Universidad Autonoma de Madrid
26. Instituto de Fisica Teorica UAM/CSIC
27. Uppsala University
28. University of Warsaw
29. University of Granada
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34. Scuola Normale Superiore, Pisa
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